SEQUENCE LISTING

```
<110> Genentech, Inc.
<120> BMCA POLYPEPTIDES AND USES THEREOF
<130> 11669.237WOU1
<140> New Filing <141> 2004-08-04
<150> US 60/540,271
<151> 2004-01-29
<160> 33
<170> PatentIn version 3.1
<210> 1
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<220>
<221> MISC_FEATURE
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (11)..(11)
<223> Xaa is any amino acid residue except Ala and cysteine
<220>
<221> MISC FEATURE
<222> (12) ... (13)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> Xaa is any amino acid except cysteine
                                        1
```

```
<220>
<221> MISC_FEATURE
<222> (18)..(20)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (22)..(29)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222>
      (31)..(33)
<223> Xaa is any amino acid except cysteine
<400> 1
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Lys Xaa
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
Xaa Cys
<210> 2
<211> 40
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<220>
<221> MISC FEATURE
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa is any amino acid except cysteine
```

```
<220>
<221> MISC FEATURE
<222> (11)..(11)
<223> Xaa is any amino acid residue except Ala and cysteine
<220>
<221> MISC_FEATURE
<222> (12)..(13)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (16)..(16)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (18)..(20)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
       (22)...(29)
<222>
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (31)..(33)
<223> Xaa is any amino acid except cysteine
<400> 2
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Cys Lys Xaa
                5
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
                                 25
                                                      30
Xaa Cys Asn Ser Val Lys Gly Thr
        35
<210> 3
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<220>
<221> MISC_FEATURE
```

```
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (9)..(9)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is Leu, Val or Ile
<220>
<221> MISC_FEATURE
<222> (12)..(13)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (16)..(16)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (18)..(20)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222>
       (22)...(29)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (31)..(33)
<223> Xaa is any amino acid except cysteine
<400> 3
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Cys Lys Xaa
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
```

Xaa Cys

```
<210> 4
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<220>
<221> MISC FEATURE
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (7)..(7)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (9)..(9)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is any amino acid residue except Ala and cysteine
<220>
<221> MISC_FEATURE
<222> (12)..(13)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (16)..(16)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (18)...(18)<br/>
<223> Xaa is selected from the group consisting of Gln, Asp and Ala
<220>
<221> MISC FEATURE
<222> (19)..(20)
<223> Xaa is any amino acid except cysteine
```

```
<220>
<221> MISC_FEATURE
<222> (22)..(29)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (31)..(33)
<223> Xaa is any amino acid except cysteine
<400> 4
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Cys Lys Xaa
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
Xaa Cys
<210> 5
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<220>
<221> MISC_FEATURE
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (7)..(7)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is any amino acid residue except Ala and cysteine
```

```
<220>
<221> MISC_FEATURE <222> (12)..(13)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (18)..(18)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE <222> (22)..(29)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
       (31)..(33)
<222>
<223> Xaa is any amino acid except cysteine
<400> 5
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Lys Xaa
Cys Xaa Asp Tyr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
                                                      30
            20
Xaa Cys
<210> 6
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<400> 6
Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Lys Pro
Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg
                                 25
```

```
Tyr Cys
<210> 7
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<400> 7
Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Lys Pro
Cys Asp Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg
Tyr Cys
<210> 8
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Lys Pro
Cys Asp Leu Tyr Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg
                                  25
Tyr Cys
<210> 9
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula I
<400> 9
```

Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Val His Ala Cys Lys Pro 1 10 15

Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg

Tyr Cys

- <210> 10 <211> 34
- <211> 34 <212> PRT
- <213> Artificial Sequence
- <220>
- <223> Formula II
- <220>
- <221> MISC FEATURE
- <222> (2)..(5)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCORYC
- <220>
- <221> MISC FEATURE
- <222> (6)..(6)
- <223> Xaa is selected from the group consisting of Tyr, Ala, Asp, Ser and Phe
- <220>
- <221> MISC_FEATURE
- <222> (7)..(7)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220>
- <221> MISC_FEATURE
- <222> (9)..(9)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220>
- <221> MISC_FEATURE
- <222> (11)..(11)
- <223> Xaa is any amino acid residue except Ala
- <220>
- <221> MISC FEATURE
- <222> (12)..(13)

<223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC

<220>

<221> MISC FEATURE

<222> (15)..(15)

<223> Xaa is any amino acid residue except Ala or Lys

<220>

<221> MISC FEATURE

<222> (16)..(16)

<223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC

<220>

<221> MISC_FEATURE

<222> (18)..(18)

<223> Xaa is selected from the group consisting of Gln, Asp and Ala

<220>

<221> MISC_FEATURE

<222> (19)..(19)

<223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC

<220>

<221> MISC_FEATURE

 $\langle 222 \rangle$ (20) ... (20)

<223> Xaa is selected from the group consisting of Tyr and Ala

<220>

<221> MISC FEATURE

<222> (22)..(29)

<223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC

<220>

<221> MISC FEATURE

<222> (31)..(33)

<223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCORYC

<400> 10

Cys Xaa Xaa Xaa Xaa Xaa Asp Xaa Leu Xaa Xaa Cys Xaa Xaa 1 10 15

Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa 20 25 30

Xaa Cys

- <210> 11
 <211> 34
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Formula II

 <220>
 <221> MISC_FEATURE
 <222> (2)..(5)
 <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220> <221> MISC_FEATURE
- <222> (6)..(6) <223> Xaa is selected from the group consisting of Tyr, Ala, Asp, Ser and Phe
- <220>
 <221> MISC_FEATURE
 <222> (7)..(7)
- <222> (//..(/)
 <223> Xaa is any amino acid except cysteine; and provided that the
 Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
 CSSNTPPLTCQRYC
- <220> <221> MISC_FEATURE <222> (9)..(9)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220>
 <221> MISC_FEATURE
 <222> (11)..(11)
 <223> Xaa is Leu, Val or Ile
- <220>
 <221> MISC_FEATURE
 <222> (12)..(13)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC

<220> <221> <222> <223>	MISC_FEATURE (15)(15) Xaa is any amino acid residue except Ala or Lys
<220> <221> <222> <223>	
<220><221><222><222><223>	(18)(18)
<220> <221> <222> <223>	(19)(19)
<220> <221> <222> <223>	(20) (20)
<220> <221> <222> <223>	MISC_FEATURE (22)(29) Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
<220> <221> <222> <223>	MISC_FEATURE (31)(33) Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
<400> 11	
Cys Xa 1	a Xaa Xaa Xaa Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Xaa Xaa 5 10 15
Cys Xa	a Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa 20 25 30

Xaa Cys

```
<210> 12
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula II
<220>
<221> MISC_FEATURE
<222> (2)..(5)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC_FEATURE
<222> (6) ... (6)
<223> Xaa is selected from the group consisting of Tyr, Ala, Asp, Ser
       and Phe
<220>
<221> MISC FEATURE
<222>
      (7)..(7)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222>
      (9)..(9)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCORYC
<220>
<221> MISC FEATURE
      (11)...(11)
<222>
<223> Xaa is any amino acid residue except Ala
<220>
<221> MISC FEATURE
       (12)..(13)
<222>
      Xaa is any amino acid except cysteine; and provided that the
<223>
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
```

- <222> (15)..(15) <223> Xaa is Ile, Val or Ala <220>
- <221> MISC FEATURE
- (16)..(16)<222>
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220> <221> MISC FEATURE
- <222> (18)..(18)
- <223> Xaa is selected from the group consisting of Gln, Asp and Ala
- <220> <221> MISC FEATURE
- <222> (19)..(19)
- <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220> <221> MISC_FEATURE
- $(20)^{-}$. (20)<222>
- <223> Xaa is selected from the group consisting of Tyr and Ala
- <220> <221> MISC_FEATURE
- $(22)^{-}$. (29)<222>
- Xaa is any amino acid except cysteine; and provided that the <223> Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <220>
- MISC_FEATURE <221>
- $(31)^{-}.(33)$ <222>
- Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC
- <400> 12
- Cys Xaa Xaa Xaa Xaa Xaa Asp Xaa Leu Xaa Xaa Cys Xaa Xaa
- Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa 20 25 30

Xaa Cys

```
<210> 13
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula II
<400> 13
Cys Ser Gln Asn Glu Ala Phe Asp Ser Leu Leu His Ala Cys Ile Pro
Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg
                                  25
Tyr Cys
<210> 14
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula II
<400> 14
Cys Ser Gln Asn Glu Ser Phe Asp Ser Leu Leu His Ala Cys Ile Pro
Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg
                                                       30
             20
Tyr Cys
<210> 15
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula II
<400> 15
Cys Ser Gln Asn Glu Phe Phe Asp Ser Leu Leu His Ala Cys Ile Pro
                                      10
                 5
```

Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg 30 20

Tyr Cys

<210> 16

<211> 34 <212> PRT <213> Artificial Sequence

<220>

<223> Formula II

<400> 16

Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Ile Pro

Cys Asp Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg 25

Tyr Cys

<210> 17

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Formula II

<400> 17

Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Ile Pro 5

Cys Gln Leu Tyr Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg 25 20

Tyr Cys

<210> 18

<211> 34 <212> PRT <213> Artificial Sequence

<220>

<223> Formula II

<400> 18 Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Ile Pro 10 Cys Asp Leu Tyr Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg 25 20 Tyr Cys <210> 19 <211> 40 <212> PRT <213> Artificial Sequence <220> <223> Formula II <220> <221> MISC FEATURE <222> (2)..(5) <223> Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCORYC <220> <221> MISC FEATURE <222> (6) . . (6) <223> Xaa is selected from the group consisting of Tyr, Ala, Asp, Ser and Phe <220> <221> MISC FEATURE (7)...(7)<222> Xaa is any amino acid except cysteine; and provided that the <223> Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC <220> MISC_FEATURE <221> <222> (9)..(9) Xaa is any amino acid except cysteine; and provided that the <223> Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR CSSNTPPLTCQRYC <220> <221> MISC_FEATURE <222> (11)..(11)<223> Xaa is any amino acid residue except Ala

17

<220>

```
<221> MISC_FEATURE
<222> (12)..(13)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222> (15)..(15)
<223> Xaa is any amino acid residue except Ala or Lys
<220>
<221> MISC_FEATURE
<222>
       (16)...(16)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222> (18)..(18)
<223> Xaa is selected from the group consisting of Gln, Asp and Ala
<220>
<221> MISC_FEATURE <222> (19)..(19)
       Xaa is any amino acid except cysteine; and provided that the
<223>
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa is selected from the group consisting of Tyr and Ala
<220>
<221> MISC FEATURE
<222> (22)..(29)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222>
       (31)..(33)
       Xaa is any amino acid except cysteine; and provided that the
<223>
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
```

<400> 19

Cys Xaa Xaa Xaa Xaa Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Xaa Xaa

1 5 10 15

Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa 20 25 30

Xaa Cys Asn Ser Val Lys Gly Thr 35 40

<210> 20

<211> 184

<212> PRT

<213> Homo sapiens

<400> 20

Met Leu Gln Met Ala Gly Gln Cys Ser Gln Asn Glu Tyr Phe Asp Ser 1 5 10 15

Leu Leu His Ala Cys Ile Pro Cys Gln Leu Arg Cys Ser Ser Asn Thr 20 25 30

Pro Pro Leu Thr Cys Gln Arg Tyr Cys Asn Ala Ser Val Thr Asn Ser 35 40 45

Val Lys Gly Thr Asn Ala Ile Leu Trp Thr Cys Leu Gly Leu Ser Leu 50 55 60

Ile Ile Ser Leu Ala Val Phe Val Leu Met Phe Leu Leu Arg Lys Ile
70 75 80

Asn Ser Glu Pro Leu Lys Asp Glu Phe Lys Asn Thr Gly Ser Gly Leu 85 90 95

Leu Gly Met Ala Asn Ile Asp Leu Glu Lys Ser Arg Thr Gly Asp Glu 100 105 110

Ile Ile Leu Pro Arg Gly Leu Glu Tyr Thr Val Glu Glu Cys Thr Cys 115 120 125

Glu Asp Cys Ile Lys Ser Lys Pro Lys Val Asp Ser Asp His Cys Phe 130 135 140

Pro Leu Pro Ala Met Glu Glu Gly Ala Thr Ile Leu Val Thr Thr Lys 145 150 155 160

Thr Asn Asp Tyr Cys Lys Ser Leu Pro Ala Ala Leu Ser Ala Thr Glu 165 170 175

```
Ile Glu Lys Ser Ile Ser Ala Arg
            180
<210> 21
<211> 52
<212> PRT
<213> Artificial Sequence
<220>
<223> BMCA ECD (1-52)
<400> 21
Met Leu Gln Met Ala Gly Gln Cys Ser Gln Asn Glu Tyr Phe Asp Ser
Leu Leu His Ala Cys Ile Pro Cys Gln Leu Arg Cys Ser Ser Asn Thr
Pro Pro Leu Thr Cys Gln Arg Tyr Cys Asn Ala Ser Val Thr Asn Ser
                              40
Val Lys Gly Thr
    50
<210> 22
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> BMCA CRD (8-41)
Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His Ala Cys Ile Pro Cys
Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu Thr Cys Gln Arg Tyr
                                  25
             20
Cys Asn Ala Ser Val Thr
        35
<210> 23
<211> 285
<212> PRT
<213> Homo sapiens
<400> 23
```

Met Asp Asp Ser Thr Glu Arg Glu Gln Ser Arg Leu Thr Ser Cys Leu Lys Lys Arg Glu Glu Met Lys Leu Lys Glu Cys Val Ser Ile Leu Pro Arg Lys Glu Ser Pro Ser Val Arg Ser Ser Lys Asp Gly Lys Leu Leu Ala Ala Thr Leu Leu Leu Ala Leu Leu Ser Cys Cys Leu Thr Val Val Ser Phe Tyr Gln Val Ala Ala Leu Gln Gly Asp Leu Ala Ser Leu Arg Ala Glu Leu Gln Gly His His Ala Glu Lys Leu Pro Ala Gly Ala Gly 85 Ala Pro Lys Ala Gly Leu Glu Glu Ala Pro Ala Val Thr Ala Gly Leu 100 Lys Ile Phe Glu Pro Pro Ala Pro Gly Glu Gly Asn Ser Ser Gln Asn 120 115 Ser Arg Asn Lys Arg Ala Val Gln Gly Pro Glu Glu Thr Val Thr Gln Asp Cys Leu Gln Leu Ile Ala Asp Ser Glu Thr Pro Thr Ile Gln Lys 150 Gly Ser Tyr Thr Phe Val Pro Trp Leu Leu Ser Phe Lys Arg Gly Ser Ala Leu Glu Glu Lys Glu Asn Lys Ile Leu Val Lys Glu Thr Gly Tyr 1.85 Phe Phe Ile Tyr Gly Gln Val Leu Tyr Thr Asp Lys Thr Tyr Ala Met Gly His Leu Ile Gln Arg Lys Lys Val His Val Phe Gly Asp Glu Leu Ser Leu Val Thr Leu Phe Arg Cys Ile Gln Asn Met Pro Glu Thr Leu

230

225

Pro Asn Asn Ser Cys Tyr Ser Ala Gly Ile Ala Lys Leu Glu Gly 245 250 255

Asp Glu Leu Gln Leu Ala Ile Pro Arg Glu Asn Ala Gln Ile Ser Leu 260 265 270

Asp Gly Asp Val Thr Phe Phe Gly Ala Leu Lys Leu Leu 275 280 285

<210> 24

<211> 309

<212> PRT

<213> Mus musculus

<400> 24

Met Asp Glu Ser Ala Lys Thr Leu Pro Pro Pro Cys Leu Cys Phe Cys 1 5 10 15

Ser Glu Lys Gly Glu Asp Met Lys Val Gly Tyr Asp Pro Ile Thr Pro 20 25 30

Gln Lys Glu Glu Gly Ala Trp Phe Gly Ile Cys Arg Asp Gly Arg Leu 35 40 45

Leu Ala Ala Thr Leu Leu Leu Ala Leu Leu Ser Ser Phe Thr Ala 50 60

Met Ser Leu Tyr Gln Leu Ala Ala Leu Gln Ala Asp Leu Met Asn Leu 65 70 75 80

Arg Met Glu Leu Gln Ser Tyr Arg Gly Ser Ala Thr Pro Ala Ala Ala 85 90 95

Gly Ala Pro Glu Leu Thr Ala Gly Val Lys Leu Leu Thr Pro Ala Ala 100 105 110

Pro Arg Pro His Asn Ser Ser Arg Gly His Arg Asn Arg Arg Ala Phe 115 120 125

Gln Gly Pro Glu Glu Thr Glu Gln Asp Val Asp Leu Ser Ala Pro Pro 130 135 140

Ala Pro Cys Leu Pro Gly Cys Arg His Ser Gln His Asp Asp Asn Gly 145 150 155 160

Met Asn Leu Arg Asn Ile Ile Gln Asp Cys Leu Gln Leu Ile Ala Asp 165 170 175

Ser Asp Thr Pro Thr Ile Arg Lys Gly Thr Tyr Thr Phe Val Pro Trp 180 185 190

Leu Leu Ser Phe Lys Arg Gly Asn Ala Leu Glu Glu Lys Glu Asn Lys 195 200 205

Ile Val Val Arg Gln Thr Gly Tyr Phe Phe Ile Tyr Ser Gln Val Leu 210 215 220

Tyr Thr Asp Pro Ile Phe Ala Met Gly His Val Ile Gln Arg Lys Lys 225 230 235 240

Val His Val Phe Gly Asp Glu Leu Ser Leu Val Thr Leu Phe Arg Cys 245 250 255

Ile Gln Asn Met Pro Lys Thr Leu Pro Asn Asn Ser Cys Tyr Ser Ala 260 265 270

Gly Ile Ala Arg Leu Glu Glu Gly Asp Glu Ile Gln Leu Ala Ile Pro 275 280 285

Arg Glu Asn Ala Gln Ile Ser Arg Asn Gly Asp Asp Thr Phe Phe Gly 290 295 300

Ala Leu Lys Leu Leu 305

<210> 25

<211> 250

<212> PRT

<213> Homo sapiens

<400> 25

Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro Gly
1 10 15

Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp

Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu 35 40 45

Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg

50 55 60

Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp 65 70 75 80

Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn 85 90 95

Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys 100 105 110

Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys 115 120 125

Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg 130 135 140

Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala 145 150 155 160

Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe 165 170 175

Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr 180 185 190

Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr 195 200 205

Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile 210 215 220

Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro 225 230 235 240

His Gly Thr Phe Leu Gly Phe Val Lys Leu 245 250

<210> 26

<211> 240

<212> PRT

<213> Mus musculus

<400> 26

Met Pro Ala Ser Ser Pro Gly His Met Gly Gly Ser Val Arg Glu Pro 1 5 10 15

Ala Leu Ser Val Ala Leu Trp Leu Ser Trp Gly Ala Val Leu Gly Ala 20 25 30

Val Thr Cys Ala Val Ala Leu Leu Ile Gln Gln Thr Glu Leu Gln Ser 35 40 45

Leu Arg Arg Glu Val Ser Arg Leu Gln Arg Ser Gly Gly Pro Ser Gln 50 55 60

Lys Gln Gly Glu Arg Pro Trp Gln Ser Leu Trp Glu Gln Ser Pro Asp 65 70 75 80

Val Leu Glu Ala Trp Lys Asp Gly Ala Lys Ser Arg Arg Arg Ala 85 90 95

Val Leu Thr Gln Lys His Lys Lys His Ser Val Leu His Leu Val 100 105 110

Pro Val Asn Ile Thr Ser Lys Asp Ser Asp Val Thr Glu Val Met Trp
115 120 125

Gln Pro Val Leu Arg Arg Gly Arg Gly Leu Glu Ala Gln Gly Asp Ile 130 135 140

Val Arg Val Trp Asp Thr Gly Ile Tyr Leu Leu Tyr Ser Gln Val Leu 145 150 155 160

Phe His Asp Val Thr Phe Thr Met Gly Gln Val Val Ser Arg Glu Gly 165 170 175

Gln Gly Arg Arg Glu Thr Leu Phe Arg Cys Ile Arg Ser Met Pro Ser 180 185 190

Asp Pro Asp Arg Ala Tyr Asn Ser Cys Tyr Ser Ala Gly Val Phe His 195 200 205

Leu His Gln Gly Asp Ile Ile Thr Val Lys Ile Pro Arg Ala Asn Ala 210 215 220

Lys Leu Ser Leu Ser Pro His Gly Thr Phe Leu Gly Phe Val Lys Leu 225 230 235 240

<210> 27 <211> 11

```
<212> PRT
 <213> Artificial Sequence
 <220>
 <223> MBP-Ac1-11 (a synthetic NH2-terminal peptide of Myelin Basic
        Protein)
 <400> 27
 Ala Ser Gln Lys Arg Pro Ser Gln Arg Ser Lys
 <210> 28
 <211>
        34
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Formula I
 <220>
 <221> MISC_FEATURE <222> (2)..(5)
 <223> Xaa is any amino acid except cysteine
 <220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> Xaa is any amino acid except cysteine
 <220>
 <221> MISC FEATURE
 <222> (9)..(9)
 <223> Xaa is any amino acid except cysteine
 <220>
 <221> MISC_FEATURE
 <222> (11)..(11)
 <223> Xaa is any amino acid residue except Ala and cysteine
 <220>
 <221> MISC_FEATURE
        (12) ... (13)
 <222>
 <223> Xaa is any amino acid except cysteine
 <220>
 <221> MISC FEATURE
 <222> (16)..(16)
 <223> Xaa is any amino acid except cysteine
 <220>
 <221> MISC FEATURE
- <222> (18)..(19)
```

```
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC_FEATURE
<222> (22)..(29)
<223> Xaa is any amino acid except cysteine
<220>
<221> MISC FEATURE
<222> (31)..(33)
<223> Xaa is any amino acid except cysteine
<400> 28
Cys Xaa Xaa Xaa Xaa Tyr Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Lys Xaa
Cys Xaa Xaa Arg Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
                                                    30
Xaa Cys
<210> 29
<211> 64
<212> PRT
<213> Artificial Sequence
<220>
<223> Z-domain of Staphylococcal protein A
<400> 29
Ala Gln His Asp Glu Ala Val Asp Asn Lys Phe Asn Lys Glu Gln Gln
Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln
Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala
Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
<210> 30
<211> 26
```

<212> PRT

<213> Artificial Sequence

<220>

<223> MiniBR3

<400> 30

Thr Pro Cys Val Pro Ala Glu Cys Phe Asp Leu Leu Val Arg His Cys 10

Val Ala Cys Gly Leu Leu Arg Thr Pro Arg 20

<210> 31 <211> 296 <212> PRT

<213> Artificial Sequence

<220>

<223> BCMA-(I22K)-Fc fusion

<400> 31

Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Ser 5

Thr Ala Gly Gln Cys Ser Gln Asn Glu Tyr Phe Asp Ser Leu Leu His

Ala Cys Lys Pro Cys Gln Leu Arg Cys Ser Ser Asn Thr Pro Pro Leu 35

Thr Cys Gln Arg Tyr Cys Asn Ala Ser Val Thr Asn Ser Val Lys Gly

Val Thr Asp Lys Ala Ala His Tyr Thr Leu Cys Pro Pro Cys Pro Ala

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln 28

160 150 155 145 Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala 170 165 Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr 235 240 Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys 275 Ser Leu Ser Leu Ser Pro Gly Lys <210> 32 <211> 14 <212> PRT <213> Artificial Sequence <220> <223> peptide epitope <400> 32 Met Ala Asp Pro Asn Arg Phe Arg Gly Lys Asp Leu Gly Gly

<210> 33 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Formula II

```
<220>
<221> MISC_FEATURE
<222>
       (2)..(5)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC_FEATURE
<222>
       (6)..(6)
       Xaa is selected from the group consisting of Tyr, Ala, Asp, Ser
<223>
       and Phe
<220>
<221> MISC FEATURE
<222>
      (7)...(7)
<223>
       Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
      (9)..(9)
<222>
       Xaa is any amino acid except cysteine; and provided that the Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is any amino acid residue except Ala
<220>
<221> MISC_FEATURE
<222> (12)..(13)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222> (15)..(15)
<223> Xaa is any amino acid residue except Ala or Lys
<220>
<221> MISC_FEATURE
<222>
       (16)..(16)
       Xaa is any amino acid except cysteine; and provided that the
<223>
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
```

```
<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> Xaa is Asp
<220>
<221> MISC FEATURE
<222> (19)..(19)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
<221> MISC FEATURE
<222> (20)..(20)
<223> Xaa is Tyr
<220>
<221> MISC_FEATURE
<222>
      (22)^{-}. (29)
<223> Xaa is any amino acid except cysteine; and provided that the
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<220>
      MISC_FEATURE
<221>
      (31)^{-}. (33)
<222>
      Xaa is any amino acid except cysteine; and provided that the
<223>
       Formula II does not comprise the sequence CSQNEYFDSLLHACIPCQLR
       CSSNTPPLTCQRYC
<400> 33
Cys Xaa Xaa Xaa Xaa Xaa Asp Xaa Leu Xaa Xaa Xaa Cys Xaa Xaa
                5
                                                         15
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
                                25
                                                     30
            20
```

Xaa Cys